Statistical Report 1989

Sexually Transmitted Disease Control

Alberta
HEALTH

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Executive Summary

Sexually Transmitted Disease (STD) Control provides a comprehensive program for the control of STD in Alberta. The 1989 report provides data on the distribution and trends of the notifiable infections as well as information on programs for the control of STD including HIV and AIDS.

The list of notifiable STD includes non-gonococcal urethritis/mucopurulent cervicitis (NGU/MPC), *Chlamydia trachomatis*, gonorrhea, syphilis, chancroid and lymphogranuloma venereum. 1989 is the first year when separate statistics were kept for *Chlamydia trachomatis* as an organism specific infection rather than a part of the syndrome NGU/MPC.

The most frequently reported infection during 1989 was *Chlamydia trachomatis* with an incidence of 317.95 per 100,000 population. This was followed by NGU/MPC with a rate of 175.99/100,000. Prior to 1989, these two reportable infections were combined. Therefore, for comparative purposes, they have been combined to show a rate of 493.95 per 100,000 population. This is very similar to the rate of 475.5/100,000 in 1988. The incidence of both gonorrhea and syphilis continues to decline dramatically with the lowest rates on record. There were no laboratory confirmed cases of lymphogranuloma venereum or chancroid.

The presence of STD in prepubertal children is considered an indicator of child sexual abuse until proven otherwise. In 1988, there were 15 reported cases of STD in children under 10 and in 1989, there were 28 cases — an increase of 87%.

Diagnostic and treatment services are available through clinics in Calgary, Edmonton and a clinic in Fort McMurray operated under the auspices of the Health Unit serving that city and surrounding areas. There were 23,509 clients seen in the three clinics — a 5% decrease from the previous year.

Dissemination of STD information to both public and professional audiences is carried out by the Education Unit. A total of 622 educational sessions reached 15,997 people. The major focus continues to be the provision of education sessions and print resources to support the teaching of STD/AIDS at the junior and senior high school levels. The education unit is also responsible for both the STD information and toll free AIDS information lines. In 1989, there was an increase of 6.2% in calls responded to by the nurse educators. The toll free AIDS line had a stable monthly call rate and a yearly total of 13,602 calls handled.

On April 1, 1989, the AIDS program moved within Public Health and became a separate unit.

The Clinical Investigation Unit with a staff complement of one laboratory technician completed a successful year of operation, actively participating in STD related research.

STD Control also provides consultation to physicians and epidemiologic services that includes contact tracing for STD including HIV infections. These services are carried out collaboratively by the central control office in Edmonton, the clinics and a mobile unit.

Incidence of Gonorrhea

The incidence of gonorrhea continued to decline with only 2217 cases reported in 1989, a decrease of 12.5%. The rate of 91.22 per 100,000 population is a decline of 13% from the previous year and the lowest since 1950. The male to female ratio of 1:1 is unchanged from 1988. Young women aged 15 – 19 have the highest age and gender specific rate of 515.39/100,000. This is followed by males aged 20 – 24 with a rate of 399.59/100,000.

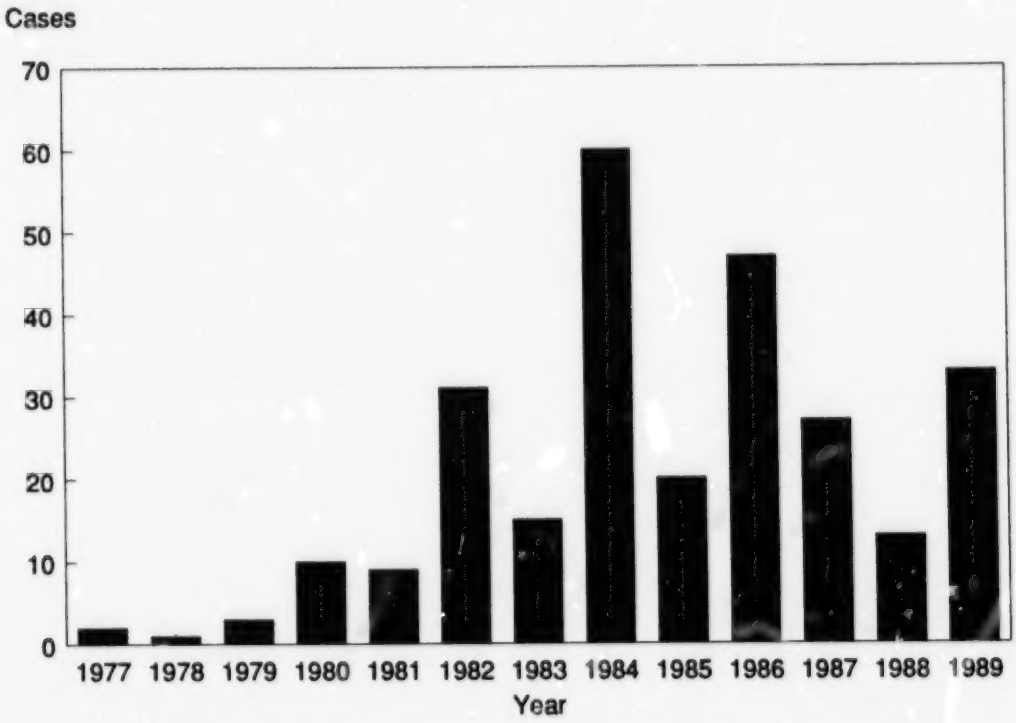
Gonococcal resistance to penicillin and tetracycline is becoming more prevalent in Canada and worldwide. One type of antibiotic resistance, penicillinase producing *Neisseria gonorrhoeae* (P.P.N.G.), has been identified and reported in Alberta since 1977. In 1989 there were 33 cases of P.P.N.G. an increase of 20 cases over the previous year. The increase is related to a controlled outbreak in Edmonton in a segment of the Indo-Chinese community and their sexual partners. This outbreak accounted for 10 of 33 cases or 30%. Two other types of antibiotic resistance are being monitored and statistics have been collected for the last three quarters of 1989. These are chromosomally mediated resistant *N. gonorrhoeae* (CMRNG) and tetracycline resistant *N. gonorrhoeae* (TRNG). CMRNG is not penicillinase producing (beta lactamase negative) with an MIC to penicillin equal to or greater than 2. TRNG has an MIC to tetracycline equal to or greater than 2. Of the isolates tested 11 were CMRNG and 29 TRNG. The overall incidence of resistance is estimated to be 3.3% and is being closely monitored.

Table 1 Gonorrhea Cases and Rates by Age and Sex, Alberta, 1989

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
< 1			1		1	
1 - 4		1.34	1	7.43	1	4.30
5 - 9			4		4	
10 - 14	4		15		19	
15 - 19	172	187.77	452	515.39	624	348.21
20 - 24	396	399.59	340	342.39	736	370.78
25 - 29	271	223.04	159	130.43	430	176.66
30 - 39	215	94.25	76	35.03	291	65.37
40 - 59	71	28.60	15	6.29	86	17.67
60+	9	6.68	1	0.61	10	3.36
Age not stated	9		6		15	
Total	**1147**	**93.94**	**1070**	**88.48**	**2217**	**91.22**

*Rate per 100,000 population

Figure 1 Cases of Penicillinase-Producing *Neisseria gonorrhoeae* (PPNG) in Alberta, 1977 – 1989



Incidence of *Chlamydia trachomatis*

Chlamydia trachomatis has been recognized as an STD since the 1970's. However, 1989 is the first year that Alberta recorded it as an organism specific disease. Before this it had been included as a component of the syndrome non gonococcal urethritis/mucopurulent cervicitis (NGU/MPC). All cases reported occurred as a result of genital or neonatal transmission. For 1989 there were 7727 cases and a rate of 317.95 per 100,000 population. A disproportionate 74% of all cases occurred in women. As with gonorrhea young women aged 15 – 19 showed the highest age and gender specific rates. This was followed by females age 20 – 24.

The high incidence of disease in women likely partially reflects the practise of routine screening by many physicians. However, it should be kept in mind that in low risk asymptomatic patients the sensitivity of the direct antigen tests (enzyme immunoassay and direct immuno-fluorescent assay) is low and may result in a large number of false positive reports.

There is a dramatic difference in the incidence of disease in women compared to men. The ratio of 3:1 indicated that a significant number of male partners of women with *Chlamydia trachomatis* do not have specimens submitted and likely are not treated.

The 13 cases of *Chlamydia trachomatis* in children under one year of age can be attributed to perinatal transmission. However, the 23 cases in children between ages 1 and 9 are indicators of child sexual abuse. This is a significant increase over the 8 cases reported in 1988 under NGU/MPC.

Table 2 ***Chlamydia trachomatis*** **Cases and Rates by Age and Sex, Alberta, 1989**

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
<1	6		7		13	
1 - 4	5	6.04	9	33.26	14	19.39
5 - 9	0		8		8	
10 - 14	7		70		77	
15 - 19	344	375.54	2218	2529.07	2562	1429.68
20 - 24	756	762.86	2128	2143.00	2884	1452.89
25 - 29	501	412.34	813	666.94	1314	539.85
30 - 39	285	124.94	367	169.20	652	146.48
40 - 59	57	22.96	70	29.38	127	26.09
60+	6	4.45	6	3.68	12	4.03
Age not stated	17		47		64	
Total	**1984**	**162.50**	**5743**	**474.90**	**7727**	**317.95**

*Rate per 100,000 population

Incidence of Non-Gonococcal Urethritis/Mucopurulent Cervicitis

Approximately 60% of all cases of NGU/MPC are caused by *Chlamydia trachomatis*. This syndrome has been reported in Alberta since 1985 and until this year included all cases of *Chlamydia trachomatis*.

In 1989 there were 4277 cases of NGU/MPC reported with a rate of 175.99 per 100,000 population. Next to *Chlamydia trachomatis* this is the second most common sexually transmitted infection. However, unlike *Chlamydia trachomatis* the two highest age and gender specific rates are males aged 20 – 24 and 25 – 29. This is likely a result of symptomatic men presenting for treatment. Females 20 – 24 years of age rank third in incidence.

In order to compare with previous years, cases and rates of NGU/MPC and *Chlamydia trachomatis* have been combined in Table 4 demonstrating an increase of 437 cases or 4% over 1988. As with *Chlamydia trachomatis*, the highest age and gender specific rates are again women aged 15 – 19 and 20 – 24.

Table 3 Non Gonococcal Urethritis/Mucopurulent Cervicitis Cases and Rates by Age and Sex, Alberta, 1989

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
10 - 14	3	3.31	14	16.31	17	9.63
15 - 19	314	342.79	362	412.77	676	377.23
20 - 24	892	900.10	465	468.27	1357	683.62
25 - 29	794	653.49	262	214.93	1056	433.85
30 - 39	625	274.00	186	85.75	811	182.20
40 - 59	201	80.98	41	17.21	242	49.73
60+	13	9.65	1	0.61	14	4.70
Age not stated	84		20		104	
Total	**2926**	**239.65**	**1351**	**111.71**	**4277**	**175.99**

*Rate per 100,000 population

Table 4 **Combined Non-gonococcal urethritis/Mucopurulent cervicitis and *Chlamydia trachomatis* Cases and Rates by Age and Sex, Alberta, 1989**

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
<1	6		7		13	
1 - 4	5	7.05	9	38.21	14	
5 - 9	0		8		8	22.23
10 - 14	10		84		94	
15 - 19	658	718.34	2580	2941.84	3238	1086.91
20 - 24	1648	1662.96	2593	2611.27	4241	2136.52
25 - 29	1295	1065.84	1075	881.87	2370	973.7
30 - 39	910	398.34	553	254.95	1463	328.69
40 - 59	258	103.94	111	46.59	369	75.83
60+	19	14.1	7	4.3	26	8.74
Age not stated	101		67		168	
Total	**4910**	**402.16**	**7094**	**586.62**	**12004**	**493.95**

*Rate per 100,000 population

Incidence of Syphilis

There were 74 cases of syphilis reported in 1989, a 33% decrease from 1988. The rate of 3.04 per 100,000 population is the lowest on record. Twenty of the 74 cases or 27% were classified as infectious (primary, secondary, and early latent). This is a decrease from 36% infectious cases noted in 1988. The small number of infectious cases indicates that this disease is well controlled in Alberta.

An increase in the incidence of infectious syphilis has been observed in the United States. This has been associated with the increasing prevalence of Human Immunodeficiency Virus (HIV) infections. This relationship has not been apparent in Alberta.

Table 5 Syphilis Cases and Rates by Age and Sex, Alberta, 1989

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
15 - 19	0		2	2.28	2	1.11
20 - 24	5	5.04	2	2.01	7	3.52
25 - 29	5	4.11	3	2.46	8	3.28
30 - 39	12	5.26	5	2.30	17	3.81
40 - 59	19	7.65	8	3.35	27	5.54
60+	7	5.19	6	3.68	13	4.37
Total	**48**	**3.93**	**26**	**2.15**	**74**	**3.04**

*Rate per 100,000 population

Notifications by Reporting Agency

The number of notifications of laboratory confirmed *Neisseria gonorrhoeae* continues to decline. Of the 2217 notifications received, 73.4% were from physicians and 26.6% from the STD Clinics in Calgary, Edmonton and Fort McMurray. This is a decrease of less than 1% for both physicians and clinics.

7727 notifications for laboratory confirmed *Chlamydia trachomatis* were received. Physicians reported 86.3% and the clinics combined reported 13.7%. As this is the first year separate statistics have been kept for *Chlamydia trachomatis*, no comparisons can be made.

In 1989, the syndrome NGU/MPC did not include identified cases of *Chlamydia trachomatis*. Physicians reported 45.4% and the clinics 54.6% of the 4277 cases. Differences in reporting practises between the clinics and physicians accounts for the clinics reporting a greater percentage of the notifications for NGU/MPC. Physicians obtain laborator, confirmation of organism specific diseases and then report. They may not recognize the syndrome as a reportable STD. Combining notifications of *Chlamydia trachomatis* and NGU/MPC demonstrates a 7% increase in the number of notifications from physicians and a 6% decrease for the clinics.

Figure 2 Percentage of Reported Cases of Gonorrhea by Reporting Agency, Alberta, 1989

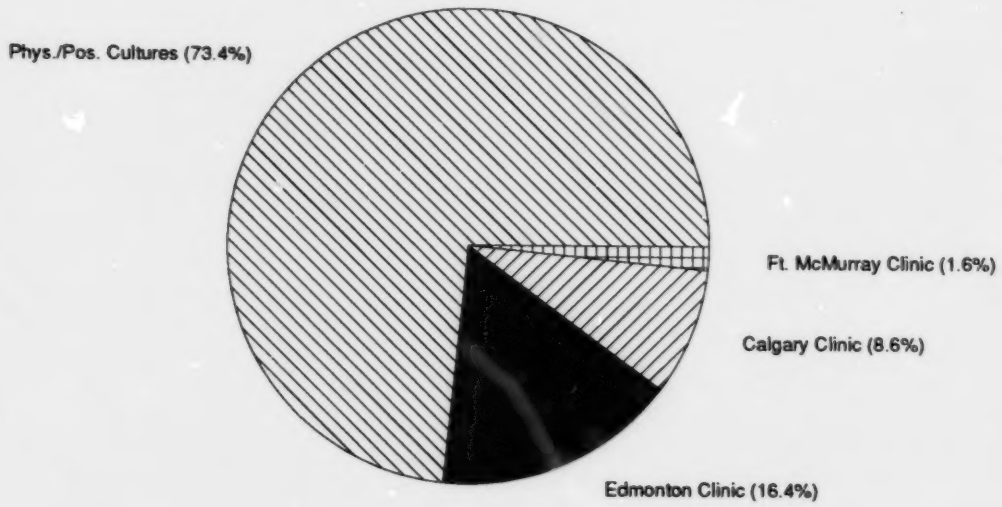


Figure 3 Percentage of Reported Cases of *Chlamydia trachomatis* by Reporting Agency, Alberta, 1989

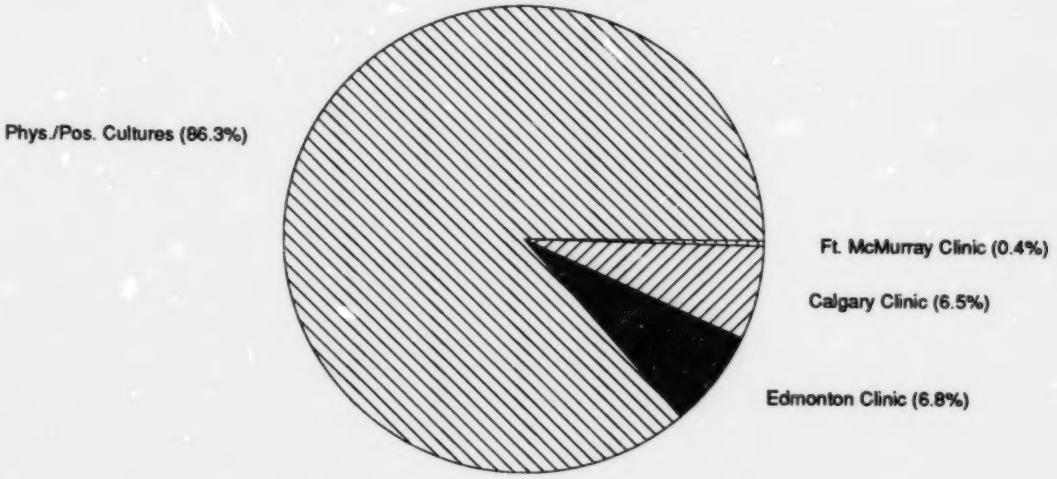
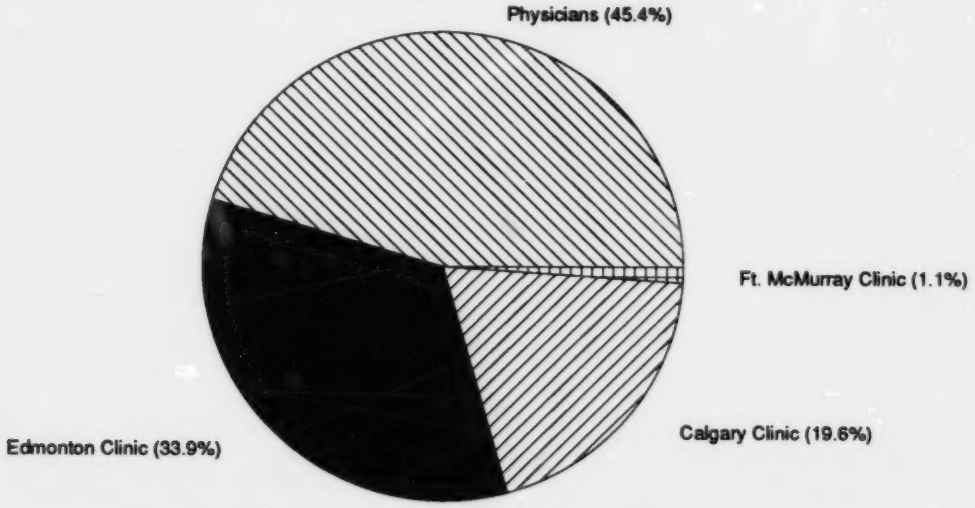


Figure 4 Percentage of Reported Cases of Non-Gonococcal Urethritis/Mucopurulent Cervicitis by Reporting Agency, Alberta, 1989



Trends in Sexually Transmitted Diseases Since 1950

The true incidence of STD is underestimated due to under reporting and the large number of non-notifiable diseases. At minimum, non-notifiable infections such as *Herpes simplex* and *Human papilloma virus* (venereal warts) likely occur with the same frequency as reportable diseases.

Gonorrhoea continues its downward trend that began in 1982 with 12.5% fewer cases in 1989 compared to 1988. Increasing numbers of resistant *N. gonorrhoeae* are being reported both in Canada and worldwide. However, to date Alberta has noted that only 3.3% of the total isolates of *N. gonorrhoeae* demonstrate resistance.

The incidence of syphilis is also decreasing with 74 cases in 1989, a decrease of 33% from 1988.

Non-gonococcal urethritis/mucopurulent cervicitis suggests a decrease from 1988. However, this is related to a change in reporting with *Chlamydia trachomatis* now reported separately. The combined cases of *Chlamydia trachomatis* and non-gonococcal urethritis/mucopurulent cervicitis demonstrates a 4% increase over 1988.

Figure 5 **Incidence Rate per 100,000 Population for Syphilis, Gonorrhea, *Chlamydia trachomatis* and Non-Gonococcal Urethritis/Mucopurulent Cervicitis, 1950 – 1989, Alberta**

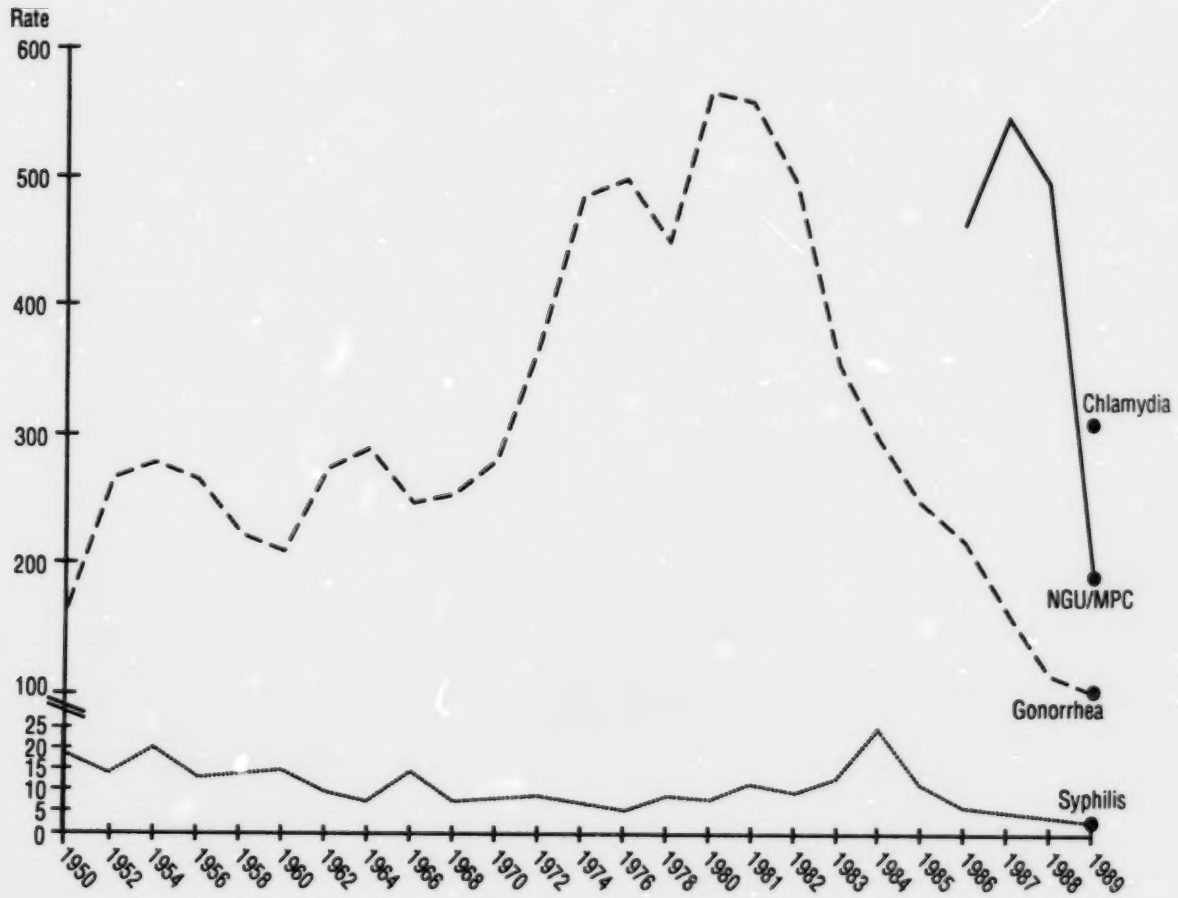


Table 6 Syphilis, Gonorrhea, *Chlamydia trachomatis* and Non-Gonococcal Urethritis/Mucopurulent Cervicitis Cases and Rates per 100,000 Population, Alberta, 1950 – 1989

Year	Gonorrhea		Syphilis		NGU/MPC		Chlamydia	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
1950	1981	152.0	165	18.1				
1952	2450	251.8	135	13.9				
1954	2819	266.7	212	20.1				
1956	2842	253.0	145	12.9				
1958	2548	211.3	167	13.8				
1960	2560	198.3	186	14.4				
1962	3560	260.0	134	9.8				
1964	3953	276.7	110	7.7				
1966	3447	235.7	208	14.2				
1968	3729	244.4	118	7.7				
1970	4290	268.1	134	8.0				
1972	5842	353.2	143	8.6				
1974	8036	466.9	136	7.8				
1976	8657	480.3	108	5.7				
1978	8451	430.9	165	8.4				
1980	11474	547.8	181	8.6				
1981	11692	540.2	255	11.8				
1982	11066	476.3	225	9.7				
1983	8021	339.7	306	13.0				
1984	6712	279.9	574	23.9				
1985	5690	233.1	290	11.9				
1986	4991	203.0	162	6.7	11051	448.7		
1987	4107	146.9	132	5.5	12753	527.9		
1988	2536	104.2	110	4.6	11567	475.5		
1989	2217	91.2	74	3.0	4277	175.9	7727	317.95

Acquired Immunodeficiency Syndrome (AIDS)

Since Alberta reported its first case of AIDS in 1983, there have been a cumulative total of 220 cases. Throughout this section, the figures have been updated to accurately reflect previously unreported cases diagnosed in earlier years. During 1989 there were 69 new cases, an increase of 23% over the 56 that occurred in 1988. This rate of increase is similar to that seen from 1987 to 1988. On a regional basis Calgary continued to have the highest new (67%) and cumulative numbers of cases in the province. The age distribution of patients has not changed.

The distribution of new AIDS cases by risk factor or behaviour demonstrates that 90% of cases gave a history of homosexual or bisexual activity. Of these 14 or 20% reported both homosexual and heterosexual contact since 1977. There were no new cases attributable to injection drug use as the only reported risk. However, 2 homosexuals also gave a history of injection drug use. There were 3 cases in which exposure to infected blood or blood products was believed to be the source of infection while heterosexual exposure to an infected person was the likely risk for 2 females. In 2 cases, no apparent risk factor was reported.

The primary presenting diagnosis for patients has not significantly changed nor has the overall survival.

Figure 6 New AIDS Cases by Year of Diagnosis, Alberta, 1983 – 1989

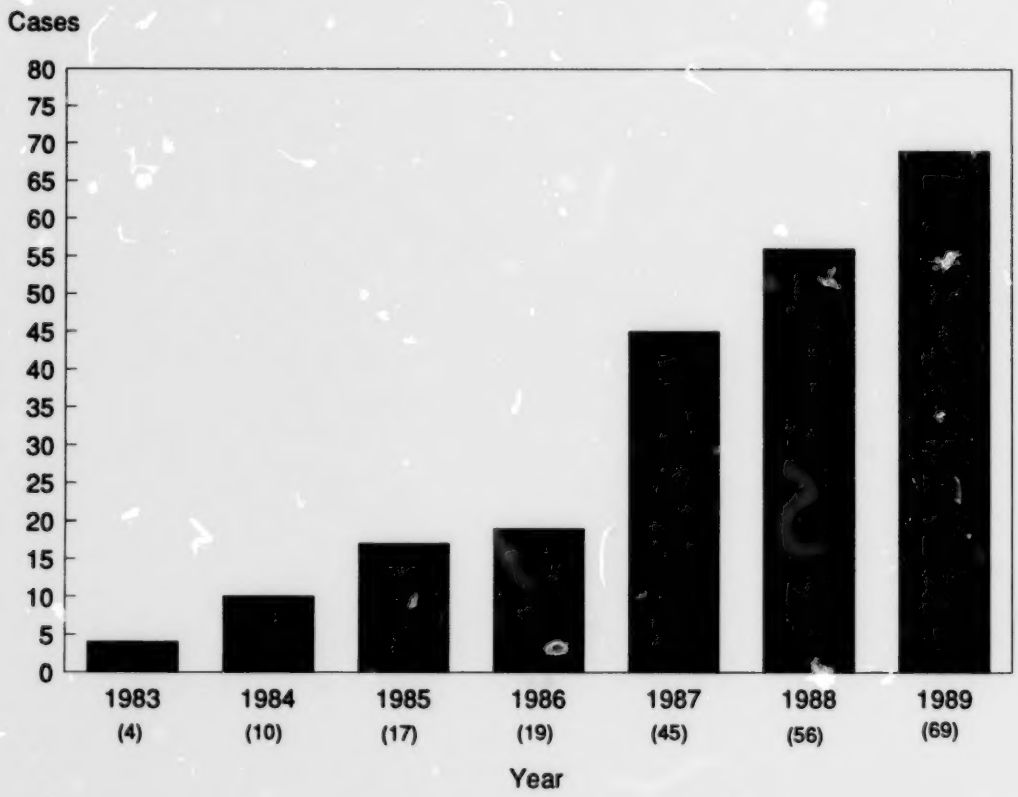


Table 7 New and Cumulative AIDS Cases by Location, Alberta, 1983 – 1989

Location	New Cases	(%)	Total Cases	(%)
Calgary	46	67	133	60
Edmonton	18	26	64	29
North*	1	1	11	5
South	4	6	12	6
Total	**69**		**220**	

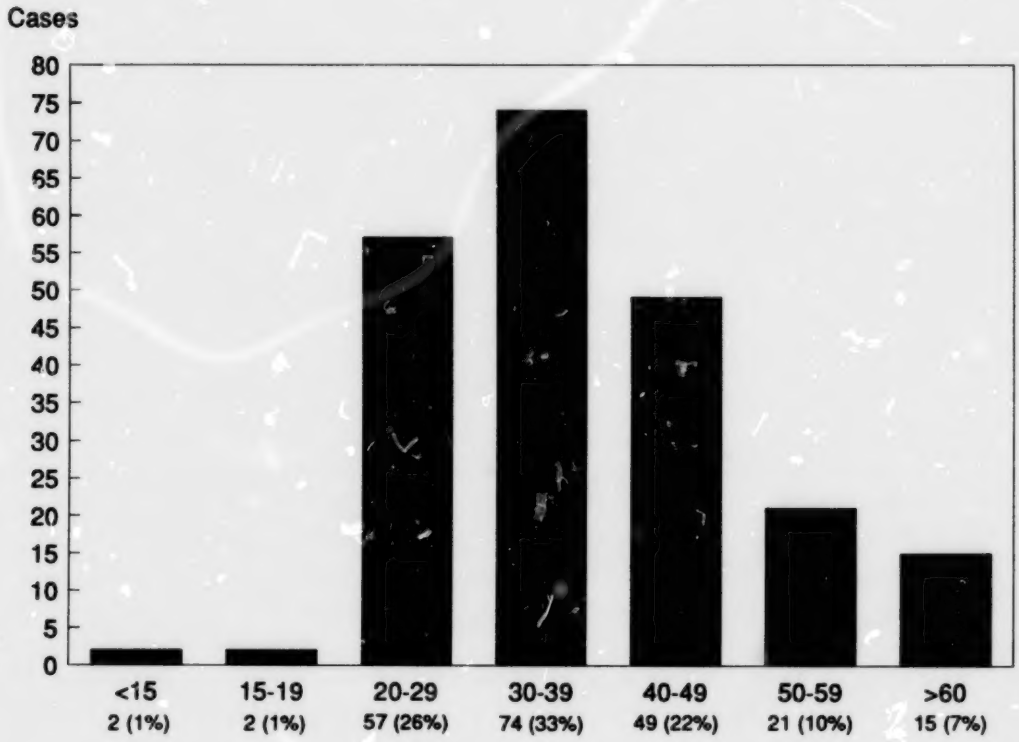
*Refers to the City of Red Deer and North

Table 8 AIDS Patients Primary Diagnosis and Status, Alberta 1983 - 1989

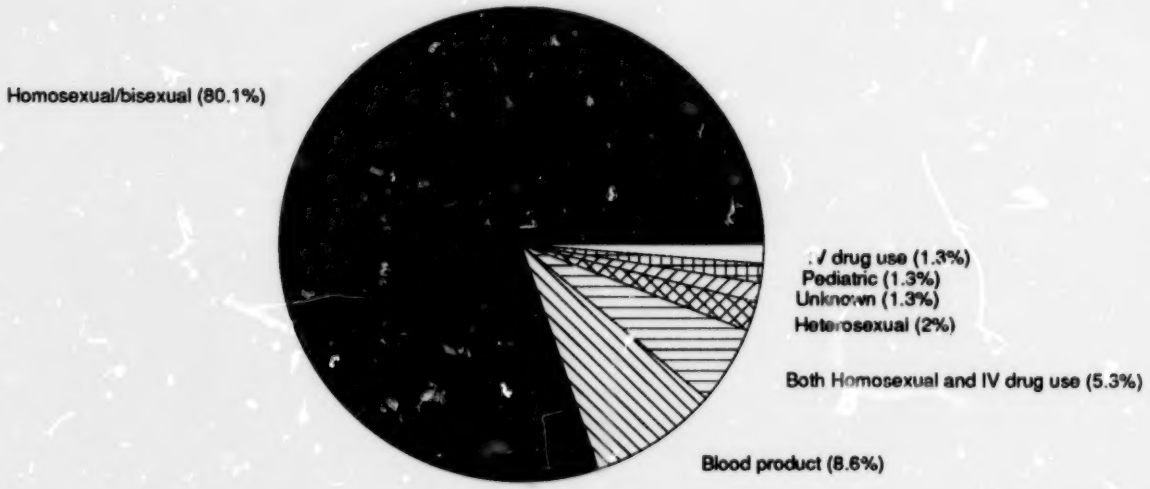
	Total Cases		Status*		
Primary Diagnosis	**Number**	**(%)**	**Dead**	**Living**	**(%)**
Pneumocystis carinii pneumonia (PCP)	123	(56)	78	45	(37)
Kaposi's Sarcoma (KS)	31	(14)	19	12	(39)
Other opportunistic infections	47	(21)	32	15	(32)
Other	19	(9)	9	10	(53)
Total	**220**		**138**	**82**	**37**

*Figures in this table reflect additional data to end of August 1990

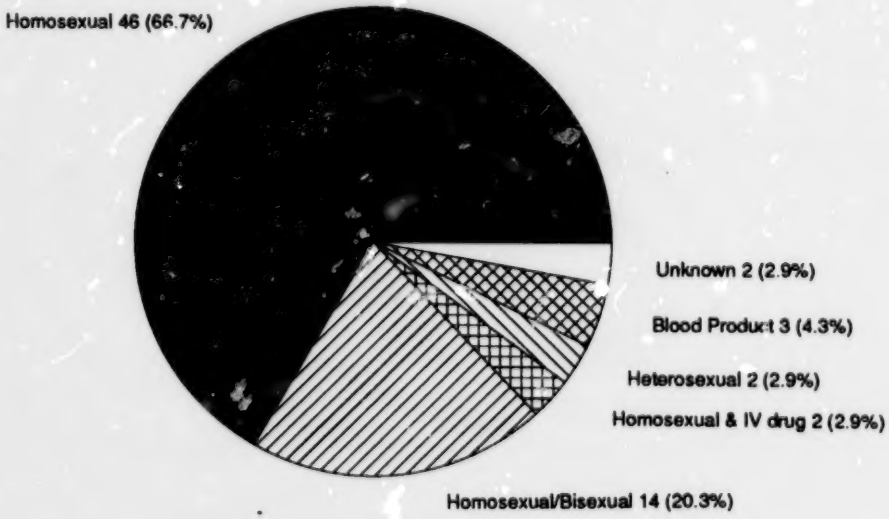
Figure 7 Ages of AIDS Patients, Alberta, 1983 – 1989



Figures 8 Cumulative AIDS Cases by Risk, Alberta, 1983 – 1988



Figures 9 New AIDS Cases by Risk, Alberta, 1989



Contact Information and Investigations

Appropriate case management of patients with STD includes eliciting information on sexual partners who may be infected. Location, investigation and early treatment of these partners is an important component of the control program.

There was no change from 1988 in the ratios of contacts named and numbers with sufficient information to be traced compared with the total number of notifications received from the various reporting agencies. Physicians are able to elicit sufficient information to initiate contact investigations on only 0.3 individuals per notification whereas the clinics are able to obtain this information on 0.7 individuals per notification. This has been consistent over the past 5 years. In spite of increased concern and information on AIDS and HIV infections, patients are engaging in risky behaviour with unknown partners and are reluctant to divulge information concerning sexual partners.

There was a significant increase from 1988 in the number of contact investigations carried out in Edmonton and Calgary and a 14% increase overall. 81% of all contacts are located for investigation and/or treatment.

All positive laboratory tests for syphilis where there is no record of treatment are investigated. As well investigations are carried out for identified high risk individuals with laboratory confirmed *Neisseria gonorrhoeae* and *Chlamydia trachomatis* where treatment has not been reported. 92% of these investigations are completed with the individual located and treated appropriately.

Table 9 Number of Contacts Listed on Notifications Received for Confirmed Cases of Gonorrhea, NGU/MPC, *Chlamydia trachomatis* and Syphilis, Alberta 1989

Reporting Agency	Total Notification Received	Contacts — Total Listed on Notification	Contacts — Sufficient Information for Investigation
Physicians	10268	5899	3760
Edmonton Clinic	2373	2357	1467
Calgary Clinic	1551	1510	1336
Ft. McMurray Clinic	117	110	77
Total	**14309**	**9876**	**6640**

Table 10 Number and Outcome of Investigations Carried out by Sexually Transmitted Disease Clinics, Alberta: 1989

	Contact Investigations			Positive Test Investigations*		
Clinics	Located	Closed/ Unlocated	Remaining Open	Completed	Remaining Open	Total
Edmonton	525 (74%)	160	27	627	33	1372
Calgary	739 (93%)	38	19	194	21	1006
Ft. McMurray	34 (81%)	5	3	28	15	85
Mobile	329 (71%)	84	49	774	74	1310
Total	**1627 (81%)**	**287**	**98**	**1623**	**143**	**3773**

*Follow-up to positive laboratory reports

Sexually Transmitted Disease Clinics — Patient Utilization

There was an overall decrease of 5% in clinic utilization. The Edmonton clinic experienced a 2.6% decrease, and the Calgary and Fort McMurray clinics a 8.7% and 1% decline respectively. The number of new patients accessing the Edmonton and Calgary clinics was down proportionately by 2.4%. Fort McMurray had an increase in new patients that is likely a reflection of the transient population in this community.

As the mobile units' mandate is to locate patients for the purpose of arranging testing, treatment, and/or follow-up and not to provide direct patient care, they are not included with patient utilization of services.

AIDS and HIV infections continue to have a large impact on the provision of service by the STD clinics. HIV counselling and testing for patients is readily available at the STD clinics. Compared to 1988 the number of patients utilizing this service is very similar. The stabilization of the number of HIV tests is likely due to the length of time this service has been available.

Table 11 Patient Utilization of STD Clinics Alberta, 1989

Patient Visits	Edmonton	Calgary	Ft. McMurray
New Admissions	3386	3183	310
Total Visits	13185	9773	551

Table 12 Serologic Tests for Syphilis and HIV Antibody Alberta, 1989

Serological Tests	Edmonton	Calgary	Ft. McMurray
Syphilis			
Clinic Patients	6254	5015	236
HIV Antibody			
Male	735	416	20
Female	203	205	1
Total	**938**	**621**	**21**

Sexually Transmitted Disease Clinic Laboratory Investigations

The most frequently performed laboratory procedures carried out in each clinic are demonstrated in the table below. Each STD clinic has on site access to microscopes. All nurses have the capability to prepare and interpret methylene blue and gram staining of urethral and endocervical smears, darkfield microscopy and wet mount examinations. All other laboratory procedures are carried out by the Provincial laboratories in Calgary and Edmonton.

More patients with gonorrhea are seen in the Edmonton clinic compared to Calgary and this phenomena cannot be explained. Both major clinics see an equal number of cases of *Chlamydia trachomatis* and *Herpes simplex* infections. Papanicoloau smears are obtained on all women who indicate they have not had one done in the previous year.

Table 13 Sexually Transmitted Disease Clinic Laboratory Investigation, Alberta, 1989

	Edmonton Clinic		Calgary Clinic		Ft. McMurray Clinic		Total	
	Taken	Positive	Taken	Positive	Taken	Positive	Taken	Positive
Urethral Smear - *N. gonorrhoeae*		238		90		26		354
- Non-gonococcal urethritis	4238	1610	2592	700	191	44	7021	2354
Cultures - *N. gonorrhoeae*								
Male urethra	4175	190	3613	102	200	16	7988	308
rectal	243	11	174	4	3	0	420	15
pharynx	2403	19	1106	26	63	0	3572	45
Total	**6821**	**220**	**4893**	**132**	**266**	**16**	**11980**	**368**
Female cervix/urethra	5028	177	3255	64	201	3	8484	244
rectal	4950	79	2345	29	115	0	7410	108
pharynx	3141	51	1350	33	60	0	4551	84
Total	**13119**	**307**	**6950**	**126**	**376**	**3**	**20445**	**436**
Chlamydia Identification								
Male urethra	4294	286	3637	328	199	17	8130	631
Female cervix/urethra	2634	190	2407	202	195	16	7870	408
Darkfield Microscopy - *T. pallidum*	32	0	20	3	0	0	52	3
Herpes Simplex								
Male urethra	311	16	13	4	3	0	327	20
Lesion	296	101	320	140	11	4	627	245
Total	**607**	**117**	**333**	**144**	**14**	**4**	**954**	**265**
Female cervix	582	55	263	33	13	0	1440	88
Lesion	280	109	281	90	18	4	579	203
Total	**862**	**164**	**544**	**123**	**31**	**4**	**1437**	**291**
Trichomonas vaginalis								
Male	736	12	168	0	153	0	1057	12
Female	1191	108	1731	48	128	7	3050	243
Candida albicans								
Male	754	36	136	5	164	3	1054	44
Female	1200	308	1748	483	130	40	3078	831
Pap Smear	465		351		0		816	

Education Unit Activities

The education unit provided resource personnel for consultation and provision of STD/AIDS information for a wide variety of audiences. A total of 662 educational sessions were given, reaching 15,997 people.

A continuing area of focus has been the provision of education sessions and print resources to support the teaching of STD/AIDS information at the junior and senior high school levels. The number of sessions taught by nurse educators increased 19% over 1988. To provide teachers with expertise on this topic at the classroom level, the *STD Teaching Outline and Resource Guide* was revised, and distributed. Due to the large number of teachers who attended STD/AIDS inservice in 1987 and 1988, teacher preparation workshops were not in great demand in 1989.

At the post-secondary level the education unit provided 56% more educational sessions in 1989. The highlight in Edmonton is the ongoing involvement as educators and consultants for the STD component of the peer education program at the University of Alberta. In Calgary all students at SAIT were given STD/AIDS education by nurse educators as part of the student orientation program.

A significant addition to the education program was the development of STD/AIDS workshops for professionals. These workshops highlight new disease information, disease prevention, STD teaching skills, and an opportunity to explore the "issues" in STD/AIDS education.

The demand from the public and professionals for one-on-one STD/AIDS information provided by nurse educators at the STD office became evident in 1989. This data was recorded and over the year 57 "in-house consultations," were provided.

As part of the STD advertisement campaign nurse educators took the opportunity to promote the STD clinic and education unit by visiting 116 community agencies in Calgary and Edmonton.

The AIDS information line provides province wide, toll free, 24 hour information through an interactive tone talker system accessed by a touch tone phone. If the caller does not have a touch tone phone, they may speak directly to a nurse educator during business hours. Due to the large number of calls, it was necessary to expand the service, and a second computer and line was added February 15, 1989. This addition, ensured that over 50% of calls were answered the first time the caller dialed. The computer answered information line had a yearly total of 13,602 calls. The value, efficiency, and public acceptability of this service is demonstrated by the stability of the monthly call rate.

Nurse educators directly answer three types of information calls: STD information calls, AIDS information calls, and calls on the 422 – 9465 number which are generated by the Interactive Tone-Talker System and answered in Edmonton only.

On the STD information line a total of 7438 calls were answered; 4028 in Calgary and 3410 in Edmonton. This represents a 6.6% increase over last year. Direct calls to nurse educators generated by the Interactive Tone-Talker System were 896. This is a significant reduction over 1988, indicating that information provided by the Interactive Tone-Talker System was sufficient to answer the questions of the majority of callers.

Table 14 Type of Education Session by Nurse Educators, Alberta, 1989

	Number	Number of Participants
Schools		
Junior High	164	4560
Senior High	94	3882
Post Secondary	50	2129
Nursing/Health Care	25	887
Inservice		
Hospitals	43	723
Health Units	8	131
Teachers	15	365
Workplace	28	685
Others	57	862
Life Skills/Adult Improvement	39	892
General Public	21	430
Correctional Institutions		
(Staff & Inmates)	21	313
In House Consultation	57	85
Total	**622**	**15944**
By Medical Staff		
Professional Groups	28	534
Interviews with Media	50	
STD Clinic Clinical Experience		
Physicians/Medical Students	86	
Nursing Students	10	

Figure 10 Information Calls to Toll Free AIDS Line, Alberta, 1989

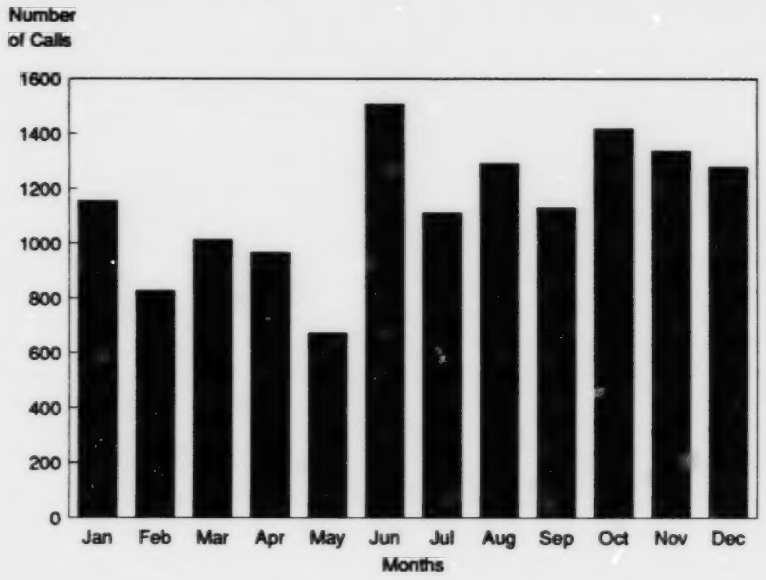
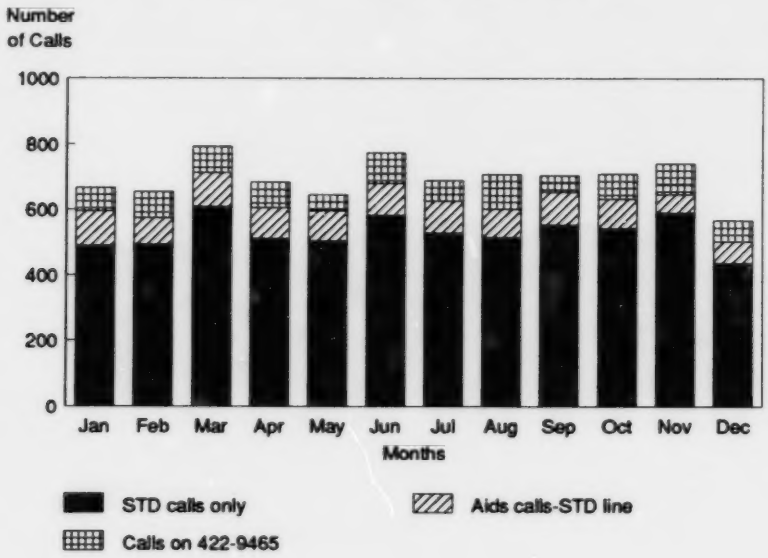


Figure 11 STD Information Calls to Nurse Educators, Alberta, 1989



Research — Clinical Investigation Unit

The Clinical Investigation Unit (CIU) completed another very successful year of operation.

During 1989, the following research projects were undertaken or completed by the Clinical Investigation Unit and/or the STD Clinics.

1. In vitro Activities of Sparfloxacin (C1-978, AT 440), Ceftriaxone, Penicillin, Tetracycline and Doxycycline Against *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.
   Principal Investigator — Hazel Talbot
   Sponsor — Parke Davis Pharmaceuticals
   Participation — CIU

2. Clinical Evaluation of Oral Itraconazole (R51,211) versus Topical Clotrimazole in Treatment of Patients with Acute Vulvo Vaginal Yeast Infections.
   Principal Investigator — Dr. Barbara Romanowski
   Co-Investigator — Dr. David Megran
   Sponsor — Janssen Pharmaceutica
   Participation — Edmonton and Calgary STD Clinics, CIU

3. Minocycline versus Doxycycline in the treatment of *Chlamydia trachomatis*.
   Principal Investigator — Dr. Barbara Romanowski
   Sponsor — Lederle Pharmaceuticals
   Participation — Edmonton STD Clinic, CIU

4. Long Term Efficiency, Safety and Tolerance of Oral Ribavirin in Early Stages of HIV Infection
   Principal Investigator — Dr. Chris Tsoukas, Montreal General Hospital
   Co-Investigator — Dr. Barbara Romanowski
   Sponsor — Viratek Inc.
   Participation — Edmonton STD Clinic, CIU

5. Comparison of Benzydamine Cream and Metronidazole Tablets in a Randomized Double Blind Phase III Study for the Treatment of Bacterial Vaginos
   Principal Investigator — Dr. Barbara Romanowski
   Sponsor — Angelini Pharmaceuticals Canada Inc.
   Participation — Edmonton STD Clinic, CIU

6. Serologic Response of Patients treated for Neuro Syphilis and Congenital Syphilis by Sexually Transmitted Disease Control Alberta Community and Occupational Health.
   Principal Investigator — Dr. Hiliary Robinson, University of Calgary
   Sponsor — Laboratory Centre for Disease Control, Health and Welfare Canada
   Participation — STD Control Alberta Health, University of Calgary

7. Comparative Study of Active versus Passive Contact Tracing in STD Clinic Patients
   Principal Investigator — Dr. Edward Love
   Sponsor — STD Research Fund
   Participation — Edmonton and Calgary STD Clinics

8. Identification and Characterization of the Human Immune Response to the Transferrin and Lactoferrin Receptors of *Neisseria gonorrhoeae*.
   Principal Investigator — Dr. Craig Lee, University of Calgary
   Co-Investigator — Dr. David Megran
   Sponsor — Alberta Heritage Foundation for Medical Research
   Participation — Calgary STD Clinic, University of Calgary

9. Comparison of Genprobe Assay versus Chlamydia culture for the Detection of *Chlamydia trachomatis* antigen in genital specimens.
   Principal Investigator — Kevin Forseca
   Sponsor — Southern Alberta Provincial Laboratory
   Participation — Calgary STD Clinic, Southern Alberta Provincial Laboratory of Notifiable Diseases by Age and Sex, Alberta, 1989

Appendix 1: Cases of Notifiable Diseases by Age and Sex, Alberta, 1989

	<1		1–4		5–9		10–14		15–19		20–24		25–29		30–39		40–59		60+		Age N/S		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhea		1		1		4	4	15	172	452	396	340	271	159	215	76	71	15	9	1	9	6	2217
Chlamydia	6	7	5	9		8	7	70	344	2218	756	2128	501	813	285	367	57	70	6	6	17	47	7727
NGU/MPC							3	14	314	362	892	465	794	262	625	186	201	41	13	1	84	20	4277
Syphilis (Total)										2	5	2	5	3	12	5	19	8	7	6			74
Primary										1	1				1		4						7
Secondary									3		3			1	2	2	2						13
Early Latent											1		2	1	2		2	1	1				10
Late Latent									1		3	1	6	2	17	4	11	8	6	8			67
Late Unspecified																							
Neuro Syphilis															1			1	1				3
Acquired Stage Unknown																							
Congenital																							0
Total	**6**	**8**	**5**	**10**	**0**	**12**	**14**	**99**	**834**	**3034**	**2049**	**2935**	**1571**	**1237**	**1137**	**634**	**348**	**134**	**35**	**14**	**110**	**73**	**14295**

Gonorrhea	Male	1279	NGU/MPC:	Male	4983	Syphilis	Male	77			
	Female	1257		Female	6584		Female	33			

Appendix 2: Cases of Confirmed Gonorrhea According to Reporting Agency by Age and Sex, Alberta, 1989

	< 1		1 – 4		5 – 9		10 – 14		15 – 19		20 – 24		25 – 29		30 – 39		40 – 59		60 +		Age N/S		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Physician		1					2	9	120	346	239	258	160	114	115	59	38	12	4	1	3	2	1483
Edmonton Clinic							2	2	20	49	79	40	59	20	62	10	16	3	2				364
Calgary Clinic									17	38	43	24	29	8	20	3	9						191
Ft. McMurray Clinic						1			6	1	9	3	7		4		3		1		1		36
Positive Culture				1		3		4	9	18	26	15	16	17	14	4	5		2		5	4	143
Total		1		1		4	4	15	172	452	396	340	271	159	215	76	71	15	9	1	9	6	2217

Appendix 3: Confirmed Cases of Chlamydia trachomatis According to Reporting Agency by Age and Sex, Alberta, 1989

	< 1		1 – 4		5 – 9		10 – 14		15 – 19		20 – 24		25 – 29		30 – 39		40 – 59		50 +		Age N/S		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Physician	3	5	5	5		2	4	48	215	1879	491	1822	297	691	168	296	34	50	3	4	5	25	6052
Edmonton Clinic							2	1	53	86	103	78	82	28	52	18	10	7	2				522
Calgary Clinic								4	50	84	108	62	90	20	55	16	8	4	1				502
Ft. McMurray Clinic								1	3	10	7	6	3	1	2							1	34
Positive Culture	3	2		4		6	1	16	23	159	47	160	29	73	8	37	5	9		2	12	21	617
Total	**6**	**7**	**5**	**9**		**8**	**7**	**70**	**344**	**2218**	**756**	**2128**	**501**	**813**	**285**	**367**	**57**	**70**	**6**	**6**	**17**	**47**	**7727**

Appendix 4: Cases of Non-Gonococcal Urethritis/Mucopurulent Cervicitis According to Reporting Agency by Age and Sex, Alberta, 1989

	< 1		1 – 4		5 – 9		10 – 14		15 – 19		20 – 24		25 – 29		30 – 39		40 – 59		60 +		Age N/S		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Physician							3	13	197	199	404	237	317	139	174	74	59	16	4		84	20	1940
Edmonton Clinic									81	99	324	108	304	60	295	49	105	18	8	1			1452
Calgary Clinic								1	30	60	154	115	167	60	148	61	34	7	1				838
Ft. McMurray Clinic									6	4	10	5	6	3	8	2	3						47
Positive Culture																							0
Total			0	0	0	0	3	14	314	362	892	465	794	262	625	186	201	41	13	1	84	20	4277